being responsive to said configuration data to perform different video processing operations on the video data;

a global video bus which establishes a direct connection between the processing module and said at least one video processing module to route the video data between said processing module and said at least one video processing module; and

C1 cont

a global control bus which provides said configuration data to/from said processing module from/to said at least one video processing module, said global control bus being separate from said global video bus;

wherein said video data is coupled with associated video timing signals synchronized to a system clock signal, and each video processing module comprises a crosspoint switch coupled to the global video bus, the cross point switch routing said video data and its associated video timing signals to/from respective ones of the plurality of parallel pipelined video hardware components, said timing signals indicating when the video data represents active video information.

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3 ~~12~~. (Twice Amended) The system of claim [1] 2 ~~1~~, wherein said processing module comprises at least two microprocessors each of which has an associated random access memory which is not shared with any other microprocessor, said processing module further comprising a shared memory which is accessible by each microprocessor of said processor module through an arbitrated control bus which arbitrates requests for access to said shared memory from each microprocessor.

C2

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8 ~~17~~. (Twice Amended) The system of claim [1] 2 ~~1~~, further comprising a hardware control library loaded on a general purpose microprocessor of said processing module, said hardware control library comprising a set of functions for programming the plurality of parallel pipelined video hardware components of said at least one video processing

C3 Cont

C3 Cont'd

module to perform respective ones of said different video processing operations concurrently.

21 20. (Thrice Amended) A method of creating a modular video processing system, comprising the steps of:

providing video data via a global video bus;

providing a global control bus separate from the global video bus;

connecting a processing module containing at least one general purpose microprocessor to said global video bus and said global control bus said microprocessor controlling hardware and software operations of said video processing system using configuration data and processing said video data;

C4

connecting said global control bus and said global video bus to at least one video processing module which contains parallel pipelined video hardware that is responsive to said configuration data to provide respectively different video processing operations on the video data, the video processing module being configured to perform the different video processing operations concurrently;

said processing module detecting each video processing module connected to said global control bus; and passing said configuration data directly to each detected video processing module over said global control bus to program said parallel pipelined video hardware to perform at least one of said video processing operations; and

associating video timing signals synchronized to a system clock signal with the video data, wherein each video processing module routes the video data and associated timing signals from any one of the multiple concurrent video processing operations to any one or more of the multiple concurrent video processing operations said timing signals indicating when the video data represents active video information.

21. Canceled.

22. (Twice Amended) The method of claim [21]20, comprising the additional step of providing at least one synchronous start signal via said global control bus said synchronous start signal being coupled to the processing module and to the at least one video processing module to signal the start of the at least one video processing operation.

25. (Twice Amended) The method of claim [21]20, comprising the additional steps of connecting a crosspoint state machine to said crosspoint switch, said crosspoint state machine monitoring transfers of video data over each data path of said crosspoint switch and allocating paths for transferring the video data among the parallel pipelined video hardware components.

26. (Thrice Amended) The method of claim [21]20, wherein said configuration data comprises respective control signals for each hardware component of said video processing system, the method including the step of coupling said processing module to manipulate said control signals to program said hardware components for each of said different video processing operations.

27. (Twice Amended) A modular processing system comprising:

at least one specialized processing module which contains a plurality of parallel pipelined hardware components that [is] are programmable to provide respectively different, ~~synchronous or~~ asynchronous specialized processing operations on an input stream of data;

a general processing module containing a general purpose microprocessor which controls hardware and software operation of said specialized processing module and said general processing module, using a hardware control library loaded on said general purpose microprocessor, said hardware control library comprising a set of functions for programming said